THE ASTROPHYSICAL JOURNAL

CONTENTS OF VOLUME 609, PART 1

2004 JULY 1, NUMBER 1

	Page
APPLICATION OF MONTE CARLO ALGORITHMS TO THE BAYESIAN ANALYSIS OF THE COSMIC MICROWAVE BACKGROUND *J. Jewell, S. Levin, & C. H. Anderson*	1
E/B SEPARATION IN COSMIC MICROWAVE BACKGROUND INTERFEROMETRY *Chan-Gyung Park & Kin-Wang Ng*	15
DETECTION OF NON-GAUSSIANITY IN THE *WILKINSON MICROWAVE ANISOTROPY PROBE* FIRST-YEAR DATA USING SPHERICAL WAVELETS © *P. Vielva, E. Martínez-González, R. B. Barreiro, J. L. Sanz, & L. Cayón*	22
THE DARK SIDE OF THE HALO OCCUPATION DISTRIBUTION *Andrey V. Kravtsov, Andreas A. Berlind, Risa H. Wechsler, Anatoly A. Klypin, Stefan Gottlöber, Brandon Allgood, & Joel R. Primack*	35
STATISTICS OF GIANT ARCS IN GALAXY CLUSTERS © *Neal Dalal, Gilbert Holder, & Joseph F. Hennawi*	50
A STUDY OF CO EMISSION IN HIGH-REDSHIFT QSOs USING THE OWENS VALLEY MILLIMETER ARRAY *Laura J. Hainline, N. Z. Scoville, Min S. Yun, D. W. Hawkins, D. T. Frayer, & Kate G. Isaak*	61
OPTICAL VARIABILITY OF NARROW-LINE SEYFERT 1 GALAXIES © *Elizabeth S. Klimek, C. Martin Gaskell, & Cecelia H. Hedrick*	69
EVIDENCE FOR ANISOTROPIC MOTION OF THE CLOUDS IN BROAD-LINE REGIONS OF BL LACERTAE OBJECTS *Xinwu Cao*	80
RESOLVING THE HOST GALAXY OF THE NEARBY QSO 1 Zw 1 WITH SUBARCSECOND MULTITRANSITION MOLECULAR LINE OBSERVATIONS *J. G. Staguhn, E. Schinnerer, A. Eckart, & J. Scharwächter*	85
DISCOVERY OF A DWARF POSTSTARBURST GALAXY NEAR A HIGH COLUMN DENSITY LOCAL Lyα ABSORBER *John T. Stocke, Brian A. Keeney, Kevin M. McLin, Jessica L. Rosenberg, R. J. Weymann, & Mark L. Giroux*	94
THE ADDITIONAL LINE COMPONENT WITHIN THE IRON Kα PROFILE IN MCG −6-30-15: EVIDENCE FOR BLOB EJECTION? © *Jian-Min Wang, Jin-Lu Qu, & Sui-Jian Xue*	107
XMM-NEWTON SPECTRA OF INTERMEDIATE-MASS BLACK HOLE CANDIDATES: APPLICATION OF A MONTE CARLO SIMULATED MODEL *Q. Daniel Wang, Yangsen Yao, Wakako Fukui, Shuang Nan Zhang, & Rosa Williams*	113
THE MID-INFRARED LUMINOSITY FUNCTION OF GALAXIES IN THE EUROPEAN LARGE AREA *INFRARED SPACE OBSERVATORY* SURVEY SOUTHERN FIELDS *F. Pozzi, C. Gruppioni, S. Oliver, I. Matute, F. La Franca, C. Lari, G. Zamorani, S. Serjeant, A. Franceschini, & M. Rowan-Robinson*	122
X-RAY PULSARS IN THE SMALL MAGELLANIC CLOUD *W. A. Majid, R. C. Lamb, & D. J. Macomb*	133
MODELS FOR THE GRAVITATIONAL FIELD OF THE GALACTIC BAR: AN APPLICATION TO STELLAR ORBITS IN THE GALACTIC PLANE AND ORBITS OF SOME GLOBULAR CLUSTERS *Bárbara Pichardo, Marco Martos, & Edmundo Moreno*	144
MOA 2003-BLG-37: A BULGE JERK-PARALLAX MICROLENS DEGENERACY *B.-G. Park, D. L. DePoy, B. S. Gaudi, A. Gould, C. Han, & R. W. Pogge* (The μFUN Collaboration) *and F. Abe, D. P. Bennett, I. A. Bond, S. Eguchi, Y. Furuta, J. B. Hearnshaw, K. Kamiya, P. M. Kilmartin, Y. Kurata, K. Masuda, Y. Matsubara, Y. Muraki, S. Noda, K. Okajima, N. J. Rattenbury, T. Sako, T. Sekiguchi, D. J. Sullivan, T. Sumi, P. J. Tristram, T. Yanagisawa, & P. C. M. Yock* (The MOA Collaboration)	166
THE EFFECTS OF DISCRETENESS OF GALACTIC COSMIC-RAY SOURCES *R. Taillet, P. Salati, D. Maurin, E. Vangioni-Flam, & M. Cassé*	173
SPATIAL VARIATION OF THE X-RAY SPECTRUM OF THE CRAB NEBULA *Koji Mori, David N. Burrows, J. Jeff Hester, George G. Pavlov, Shinpei Shibata, & Hiroshi Tsunemi*	186
THREE-DIMENSIONAL PHOTOIONIZATION STRUCTURE AND DISTANCES OF PLANETARY NEBULAE. I. NGC 6369 *Hektor Monteiro, Hugo E. Schwarz, Ruth Gruenwald, & Steve Heathcote*	194

Page

THE UNIDENTIFIED INFRARED BANDS IN THE DIFFUSE INTERSTELLAR MEDIUM ACROSS THE GALAXY BASED ON THE *INFRARED TELESCOPE IN SPACE* MID-INFRARED SPECTROMETER OBSERVATION 203
Itsuki Sakon, Takashi Onaka, Daisuke Ishihara, Takafumi Ootsubo, Issei Yamamura, Toshihiko Tanabé, & Thomas L. Roellig

DEFECTIVE CARBON ONIONS IN INTERSTELLAR SPACE AS THE ORIGIN OF THE OPTICAL EXTINCTION BUMP AT 217.5 NANOMETERS 220
Satoshi Tomita, Minoru Fujii, & Shinji Hayashi

A NEW UNIDENTIFIED FAR-INFRARED BAND IN NGC 7027 © 225
Javier R. Goicoechea, José Cernicharo, Helena Masso, & María Luisa Senent

METHANOL IN W3(H_2O) AND SURROUNDING REGIONS 231
E. C. Sutton, A. M. Sobolev, S. V. Salii, A. V. Malyshev, A. B. Ostrovskii, & I. I. Zinchenko

NEW ASPECTS OF THE FORMATION OF THE β PICTORIS MOVING GROUP 243
V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella

PHYSICAL CONDITIONS IN ORION'S VEIL © 247
N. P. Abel, C. L. Brogan, G. J. Ferland, C. R. O'Dell, G. Shaw, & T. H. Troland

GOING SLITLESS: IMAGES OF FORBIDDEN-LINE EMISSION REGIONS OF CLASSICAL T TAURI STARS OBSERVED WITH THE *HUBBLE SPACE TELESCOPE* 261
Patrick Hartigan, Suzan Edwards, & Rachel Pierson

TWO-DIMENSIONAL, TIME-DEPENDENT, MULTIGROUP, MULTIANGLE RADIATION HYDRODYNAMICS TEST SIMULATION IN THE CORE-COLLAPSE SUPERNOVA CONTEXT 277
Eli Livne, Adam Burrows, Rolf Walder, Itamar Lichtenstadt, & Todd A. Thompson

GRAVITATIONAL WAVES FROM STELLAR COLLAPSE: CORRELATIONS TO EXPLOSION ASYMMETRIES © 288
Chris L. Fryer, Daniel E. Holz, & Scott A. Hughes

MAGNETOELLIPTIC INSTABILITIES 301
Norman R. Lebovitz & Ellen Zweibel

THE CHAOTIC BEHAVIOR OF THE BLACK HOLE SYSTEM GRS 1915+105 313
R. Misra, K. P. Harikrishnan, B. Mukhopadhyay, G. Ambika, & A. K. Kembhavi

THE DISTANCE AND INTERSTELLAR SIGHT LINE TO GX 339−4 317
R. I. Hynes, D. Steeghs, J. Casares, P. A. Charles, & K. O'Brien

CHANDRA HIGH-RESOLUTION SPECTROSCOPY OF THE ABSORPTION-LINE FEATURES IN THE LOW-MASS X-RAY BINARY GX 13+1 325
Y. Ueda, H. Murakami, K. Yamaoka, T. Dotani, & K. Ebisawa

PULSAR RADIO EMISSION ALTITUDE FROM CURVATURE RADIATION 335
R. T. Gangadhara

OBSERVATIONS OF NONRADIAL PULSATIONS IN RADIO PULSARS 340
J. Christopher Clemens & R. Rosen

POLARIZATION OBSERVATIONS OF NINE SOUTHERN MILLISECOND PULSARS 354
R. N. Manchester & J. L. Han

STRUCTURE OF PAIR WINDS FROM COMPACT OBJECTS WITH APPLICATION TO EMISSION FROM HOT BARE STRANGE STARS 363
A. G. Aksenov, M. Milgrom, & V. V. Usov

FAR-ULTRAVIOLET SPECTROSCOPIC ANALYSES OF FOUR CENTRAL STARS OF PLANETARY NEBULAE © 378
J. E. Herald & L. Bianchi

A COMPARISON OF THE OUTER ATMOSPHERE OF THE "FLAT ACTIVITY" STAR τ CETI (G8 V) WITH THE SUN (G2 V) AND α CENTAURI A (G2 V) 392
Philip G. Judge, Steven H. Saar, Mats Carlsson, & Thomas R. Ayres

SPECTRA AND DIAGNOSTICS FOR THE DIRECT DETECTION OF WIDE-SEPARATION EXTRASOLAR GIANT PLANETS 407
Adam Burrows, David Sudarsky, & Ivan Hubeny

COOLER AND BIGGER THAN PREVIOUSLY THOUGHT? PLANETARY HOST STELLAR PARAMETERS FROM THE INFRARED FLUX METHOD 417
Iván Ramírez & Jorge Meléndez

ELECTRON INERTIAL EFFECTS ON RAPID ENERGY REDISTRIBUTION AT MAGNETIC X-POINTS 423
K. G. McClements, A. Thyagaraja, N. Ben Ayed, & L. Fletcher

OBSERVATIONS INDICATING THAT $\sim 1 \times 10^7$ K SOLAR FLARE PLASMAS MAY BE PRODUCED IN SITU FROM $\sim 1 \times 10^6$ K CORONAL PLASMA 439
U. Feldman, I. Dammasch, E. Landi, & G. A. Doschek

LARGE-SCALE HYBRID SIMULATIONS OF PARTICLE ACCELERATION AT A PARALLEL SHOCK 452
Joe Giacalone

CONTENTS

	Page
DISSOCIATIVE RECOMBINATION OF N_2H^+: EVIDENCE FOR FRACTURE OF THE N–N BOND *W. D. Geppert, R. Thomas, J. Semaniak, A. Ehlerding, T. J. Millar, F. Österdahl, M. af Ugglas, N. Djurić, A. Paál, & M. Larsson*	459
ERRATUM: "PROPAGATING WAVES AND MAGNETOHYDRODYNAMIC MODE COUPLING IN THE QUIET-SUN NETWORK" (ApJ, 604, 936 [2004]) *D. Shaun Bloomfield, R. T. James McAteer, Mihalis Mathioudakis, David R. Williams, & Francis P. Keenan*	465
INSTRUCTIONS TO AUTHORS	i

2004 JULY 10, NUMBER 2

DISSIPATION OF MAGNETIC FLUX IN PRIMORDIAL GAS CLOUDS *Hideki Maki & Hajime Susa*	467
UNUSUALLY LARGE FLUCTUATIONS IN THE STATISTICS OF GALAXY FORMATION AT HIGH REDSHIFT ⓔ *Rennan Barkana & Abraham Loeb*	474
THE TUMULTUOUS LIVES OF GALACTIC DWARFS AND THE MISSING SATELLITES PROBLEM *Andrey V. Kravtsov, Oleg Y. Gnedin, & Anatoly A. Klypin*	482
EXTENDED MOSAIC OBSERVATIONS WITH THE COSMIC BACKGROUND IMAGER *A. C. S. Readhead, B. S. Mason, C. R. Contaldi, T. J. Pearson, J. R. Bond, S. T. Myers, S. Padin, J. L. Sievers, J. K. Cartwright, M. C. Shepherd, D. Pogosyan, S. Prunet, P. Altamirano, R. Bustos, L. Bronfman, S. Casassus, W. L. Holzapfel, J. May, U.-L. Pen, S. Torres, & P. S. Udomprasert*	498
THE CLUSTERING OF GALAXIES AROUND THREE $z \sim 3$ DAMPED Lyα ABSORBERS *Nicolas Bouché & James D. Lowenthal*	513
THE DEEP2 GALAXY REDSHIFT SURVEY: CLUSTERING OF GALAXIES IN EARLY DATA *Alison L. Coil, Marc Davis, Darren S. Madgwick, Jeffrey A. Newman, Christopher J. Conselice, Michael Cooper, Richard S. Ellis, S. M. Faber, Douglas P. Finkbeiner, Puragra Guhathakurta, Nick Kaiser, David C. Koo, Andrew C. Phillips, Charles C. Steidel, Benjamin J. Weiner, Christopher N. A. Willmer, & Renbin Yan*	525
SUB-MILLIARCSECOND IMAGING OF QUASARS AND ACTIVE GALACTIC NUCLEI. III. KINEMATICS OF PARSEC-SCALE RADIO JETS ⓔ *K. I. Kellermann, M. L. Lister, D. C. Homan, R. C. Vermeulen, M. H. Cohen, E. Ros, M. Kadler, J. A. Zensus, & Y. Y. Kovalev*	539
BLAZAR COUNTERPARTS FOR 3EG SOURCES AT $-40^\circ <$ DECL. $< 0^\circ$: PUSHING SOUTH THROUGH THE BULGE *David Sowards-Emmerd, Roger W. Romani, Peter F. Michelson, & James S. Ulvestad*	564
MODELING THE MULTIWAVELENGTH SPECTRA AND VARIABILITY OF BL LACERTAE IN 2000 ⓔ *M. Böttcher & A. Reimer*	576
DETECTIONS OF THE 2175 Å DUST FEATURE AT $1.4 \lesssim z \lesssim 1.5$ FROM THE SLOAN DIGITAL SKY SURVEY *Junfeng Wang, Patrick B. Hall, Jian Ge, Aigen Li, & Donald P. Schneider*	589
FUSE OBSERVATIONS OF GALACTIC AND INTRINSIC ABSORPTION IN THE SPECTRUM OF THE SEYFERT 1 GALAXY 2MASX J21362313–6224008 *Massimiliano Bonamente & W. Van Dyke Dixon*	597
X-RAY TEMPERATURES FOR THE EXTENDED MEDIUM-SENSITIVITY SURVEY HIGH-REDSHIFT CLUSTER SAMPLE: CONSTRAINTS ON COSMOLOGY AND THE DARK ENERGY EQUATION OF STATE *J. Patrick Henry*	603
DEEP CCD SURFACE PHOTOMETRY OF GALAXY CLUSTERS. II. SEARCHING FOR INTRACLUSTER STARLIGHT IN NON-cD CLUSTERS *John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Paul Harding, Nathan Kaib, & John Dubinski*	617
RADIATIVE COOLING AND HEATING AND THERMAL CONDUCTION IN M87 *Simona Ghizzardi, Silvano Molendi, Fabio Pizzolato, & Sabrina De Grandi*	638
THE MASS DISCREPANCY–ACCELERATION RELATION: DISK MASS AND THE DARK MATTER DISTRIBUTION ⓔ *Stacy S. McGaugh*	652
STAR FORMATION THRESHOLDS AND GALAXY EDGES: WHY AND WHERE *Joop Schaye*	667
FIELD E+A GALAXIES AT INTERMEDIATE REDSHIFTS ($0.3 < z < 1$) ⓔ *Kim-Vy H. Tran, Marijn Franx, Garth D. Illingworth, Pieter van Dokkum, Daniel D. Kelson, & Daniel Magee*	683
NEAR-INFRARED MOLECULAR HYDROGEN EMISSION FROM THE CENTRAL REGIONS OF GALAXIES: REGULATED PHYSICAL CONDITIONS IN THE INTERSTELLAR MEDIUM *Soojong Pak, D. T. Jaffe, G. J. Stacey, C. M. Bradford, Eric W. Klumpe, & Luke D. Keller*	692

Page

THE DISCOVERY OF QUASI-SOFT AND SUPERSOFT SOURCES IN EXTERNAL GALAXIES 710
R. Di Stefano & A. K. H. Kong

XMM-NEWTON SPECTROSCOPY OF FOUR BRIGHT ULTRALUMINOUS X-RAY SOURCES IN THE ANTENNAE GALAXIES (NGC 4038/4039) 728
J. M. Miller, A. Zezas, G. Fabbiano, & F. Schweizer

A SYNOPTIC X-RAY STUDY OF M31 WITH THE *CHANDRA* HIGH RESOLUTION CAMERA (E) 735
Benjamin F. Williams, Michael R. Garcia, Albert K. H. Kong, Frank A. Primini, A. R. King, Rosanne Di Stefano, & Stephen S. Murray

X-RAY SOURCES AND THEIR OPTICAL COUNTERPARTS IN THE GLOBULAR CLUSTER M4 755
Cees Bassa, David Pooley, Lee Homer, Frank Verbunt, Bryan M. Gaensler, Walter H. G. Lewin, Scott F. Anderson, Bruce Margon, Victoria M. Kaspi, & Michiel van der Klis

PROPER MOTION OBJECTS IN THE HUBBLE DEEP FIELD 766
M. Kilic, Ted von Hippel, R. A. Mendez, & D. E. Winget

MAGNETIC FIELDS AND IONIZED GAS IN THE INNER GALAXY: AN OUTER SCALE FOR TURBULENCE AND THE POSSIBLE ROLE OF H II REGIONS 776
M. Haverkorn, B. M. Gaensler, N. M. McClure-Griffiths, John M. Dickey, & A. J. Green

THE ORIGIN OF NONTHERMAL X-RAY FILAMENTS AND TeV EMISSION IN YOUNG SUPERNOVA REMNANTS 785
M. Lyutikov & M. Pohl

SPECTROSCOPY AND THREE-DIMENSIONAL IMAGING OF THE CRAB NEBULA (E) 797
Andrej Čadež, Alberto Carramiñana, & Simon Vidrih

DECAY OF ALFVÉN WAVES IN A FILAMENTARY CLOUD 810
Kanako Sugimoto, Tomoyuki Hanawa, & Naoya Fukuda

THE ABSENCE OF CRYSTALLINE SILICATES IN THE DIFFUSE INTERSTELLAR MEDIUM 826
F. Kemper, W. J. Vriend, & A. G. G. M. Tielens

TWO NEW LOW GALACTIC D/H MEASUREMENTS FROM THE *FAR ULTRAIOLET SPECTROSCOPIC EXPLORER* 838
Brian E. Wood, Jeffrey L. Linsky, Guillaume Hébrard, Gerard M. Williger, H. Warren Moos, & William P. Blair

MEASURING FUNDAMENTAL PARAMETERS OF SUBSTELLAR OBJECTS. I. SURFACE GRAVITIES 854
Subhanjoy Mohanty, Gibor Basri, Ray Jayawardhana, France Allard, Peter Hauschildt, & David Ardila

MEASURING FUNDAMENTAL PARAMETERS OF SUBSTELLAR OBJECTS. II. MASSES AND RADII 885
Subhanjoy Mohanty, Ray Jayawardhana, & Gibor Basri

HIGH-RESOLUTION NEAR-INFRARED SPECTROSCOPY OF FU ORIONIS OBJECTS 906
Lee Hartmann, Kenneth Hinkle, & Nuria Calvet

SPECTROSCOPY OF CANDIDATE MEMBERS OF THE η CHAMAELEONTIS AND MBM 12 YOUNG ASSOCIATIONS 917
K. L. Luhman & D. Steeghs

HIGH-RESOLUTION X-RAY SPECTROSCOPY OF THE POST–T TAURI STAR PZ TELESCOPII 925
C. Argiroffi, J. J. Drake, A. Maggio, G. Peres, S. Sciortino, & F. R. Harnden

GAMMA-RAY BURST FORMATION RATE INFERRED FROM THE SPECTRAL PEAK ENERGY–PEAK LUMINOSITY RELATION (E) 935
D. Yonetoku, T. Murakami, T. Nakamura, R. Yamazaki, A. K. Inoue, & K. Ioka

A SYSTEMATIC ANALYSIS OF SUPERNOVA LIGHT IN GAMMA-RAY BURST AFTERGLOWS 952
A. Zeh, S. Klose, & D. H. Hartmann

ON THE AFTERGLOW OF THE X-RAY FLASH OF 2003 JULY 23: PHOTOMETRIC EVIDENCE FOR AN OFF-AXIS GAMMA-RAY BURST WITH AN ASSOCIATED SUPERNOVA? 962
J. P. U. Fynbo, J. Sollerman, J. Hjorth, F. Grundahl, J. Gorosabel, M. Weidinger, P. Møller, B. L. Jensen, P. M. Vreeswijk, C. Fransson, E. Ramirez-Ruiz, P. Jakobsson, S. F. Jørgensen, C. Vinter, M. I. Andersen, J. M. Castro Cerón, A. J. Castro-Tirado, A. S. Fruchter, J. Greiner, C. Kouveliotou, A. Levan, S. Klose, N. Masetti, H. Pedersen, E. Palazzi, E. Pian, J. Rhoads, E. Rol, T. Sekiguchi, N. R. Tanvir, P. Tristram, A. de Ugarte Postigo, R. A. M. J. Wijers, & E. van den Heuvel

CONSTRAINING X-RAY BINARY JET MODELS VIA REFLECTION 972
Sera Markoff & Michael A. Nowak

LONG-TERM SPECTRAL AND TIMING BEHAVIOR OF THE BLACK HOLE CANDIDATE XTE J1908+094 (E) 977
Ersin Göğüş, Mark H. Finger, Chryssa Kouveliotou, Peter M. Woods, Sandeep K. Patel, Michael Rupen, Jean H. Swank, Craig B. Markwardt, & Michiel van der Klis

CHEMICAL ABUNDANCES IN THE SECONDARY STAR IN THE BLACK HOLE BINARY A0620−00 (E) 988
Jonay I. González Hernández, Rafael Rebolo, Garik Israelian, Jorge Casares, Andre Maeder, & Georges Meynet

MAGNETIC FIELD EVOLUTION IN NEUTRON STAR CRUSTS DUE TO THE HALL EFFECT AND OHMIC DECAY (E) 999
Andrew Cumming, Phil Arras, & Ellen Zweibel

THE HANLE EFFECT AS A DIAGNOSTIC OF MAGNETIC FIELDS IN STELLAR ENVELOPES. IV. APPLICATION TO POLARIZED P CYGNI WIND LINES 1018
Richard Ignace, Kenneth H. Nordsieck, & Joseph P. Cassinelli

Page

EVOLUTION AND NUCLEOSYNTHESIS OF PRIMORDIAL LOW-MASS STARS 1035
Ilenia Picardi, Alessandro Chieffi, Marco Limongi, Ofelia Pisanti, Gennaro Miele, Gianpiero Mangano, & Gianluca Imbriani

THE EVOLUTION OF GRAVITATIONALLY UNSTABLE PROTOPLANETARY DISKS: FRAGMENTATION AND POSSIBLE GIANT PLANET FORMATION © 1045
Lucio Mayer, Thomas Quinn, James Wadsley, & Joachim Stadel

A PLANETESIMAL ACCRETION ZONE IN A CIRCUMBINARY DISK 1065
Kazumasa Moriwaki & Yoshitsugu Nakagawa

NEW DATA AND IMPROVED PARAMETERS FOR THE EXTRASOLAR TRANSITING PLANET OGLE-TR-56b 1071
Guillermo Torres, Maciej Konacki, Dimitar D. Sasselov, & Saurabh Jha

INTERPLANETARY TRANSPORT MECHANISMS OF SOLAR ENERGETIC PARTICLES 1076
G. Qin, M. Zhang, J. R. Dwyer, & H. K. Rassoul

REVISITING THE ORIGIN OF IMPULSIVE ELECTRON EVENTS: CORONAL MAGNETIC RESTRUCTURING 1082
Dalmiro Jorge Filipe Maia & Monique Pick

MAGNETOSTATIC STRUCTURES OF THE SOLAR CORONA. III. NORMAL AND INVERSE QUIESCENT PROMINENCES 1098
B. C. Low & M. Zhang

INTERMITTENT HEATING OF THE SOLAR CORONA BY HEAT FLUX–GENERATED ION CYCLOTRON WAVES 1112
S. A. Markovskii & Joseph V. Hollweg

NUMERICAL SIMULATIONS OF THREE-DIMENSIONAL CORONAL MAGNETIC FIELDS RESULTING FROM THE EMERGENCE OF TWISTED MAGNETIC FLUX TUBES © 1123
Y. Fan & S. E. Gibson

A BAYESIAN APPROACH TO SOLAR FLARE PREDICTION 1134
M. S. Wheatland

SOLAR CYCLE 23: AN ANOMALOUS CYCLE? 1140
Giuliana de Toma, Oran R. White, Gary A. Chapman, Stephen R. Walton, Dora G. Preminger, & Angela M. Cookson

THE RELATIONSHIP OF THE CHROMOSPHERE TO THE LOWER SOLAR TRANSITION REGION 1153
G. A. Doschek, J. T. Mariska, & S. Akiyama

SUBMILLIMETER WAVE ASTRONOMY SATELLITE MONITORING OF THE POSTPERIHELION WATER PRODUCTION RATE OF COMET C/1999 T1 (McNAUGHT-HARTLEY) 1164
F. Bensch, E. A. Bergin, D. Bockelée-Morvan, G. J. Melnick, & N. Biver

SHOCK COMPRESSION OF DEUTERIUM AND THE INTERIORS OF JUPITER AND SATURN © 1170
D. Saumon & T. Guillot

NON-LTE LINE FORMATION FOR HYDROGEN REVISITED 1181
Norbert Przybilla & Keith Butler

THE STABILITY OF $C_6H_6^{+2}$: THE IMPLICATION FOR POLYCYCLIC AROMATIC HYDROCARBON DICATIONS © 1192
Marzio Rosi, Charles W. Bauschlicher, Jr., & E. L. O. Bakes

ERRATUM: "EVIDENCE FOR PLANET-INDUCED CHROMOSPHERIC ACTIVITY ON HD 179949" (ApJ, 597, 1092 [2003]) 1197
E. Shkolnik, G. A. H. Walker, & D. A. Bohlender

ERRATUM: "ASYMMETRIES IN THE COSMIC MICROWAVE BACKGROUND ANISOTROPY FIELD" (ApJ, 605, 14 [2004]) 1198
H. K. Eriksen, F. K. Hansen, A. J. Banday, K. M. Górski, & P. B. Lilje